

ACTION MEMORANDUM -RV1

DATE:

SUBJECT: Request for Time-Critical Removal Action Funding, Exemption from the \$2 Million Statutory Limit and a 12-Month Exemption at the Niagara Falls Boulevard Site,

FROM: Eric M. Daly, On-Scene Coordinator
Response and Prevention Branch

THRU: Eric Mosher, Chief
Response and Prevention Branch

TO: Walter E. Mugdan, Director
Emergency and Remedial Response Division

Site ID: A23Q

I. PURPOSE

The purpose of this Action Memorandum is to request approval and funding, exemption from \$2 Million Statutory Limit and a 12-Month Exemption to start a time-critical removal action described herein at the Niagara Falls Boulevard Site located in Niagara Falls, Niagara County, New York.

The objective of this removal action is to protect public health or welfare or the environment by responding to the release, or substantial threat of release, of the hazardous substances Radium-226, Radium-228 into the environment at the Site. Radium-226 is present in the soil at the Site. This removal action will entail the excavation and off-site disposal of soils contaminated with Radium-226 at levels in excess of 0.00 picocuries per gram (pCi/g); Radium 228 at levels in excess of 0.00 picocuries per gram (pCi/g);

Conditions at the Site meet the criteria for a removal action under the Comprehensive Environmental Resource, Compensation and Liability Act (CERCLA) and Section 300.415(b) of the National Contingency Plan (NCP), 40 C.F.R. §300.415(b).

There are no nationally significant or precedent setting issues associated with this removal action.

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ERRD-RAB
ROTOLA

ORC-NYCSB
LIEBER

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CARPENTER

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MUGDAN

II. SITE CONDITIONS

The Comprehensive Environmental Response, Compensation and Liability Information System Identification Number for the Site is **NYN000206699**

A. Site Description

1. Removal site evaluation

In 1978, the U.S. Department of Energy (DOE) conducted an aerial radiological survey of the Niagara Falls region and found more than 15 properties having elevated levels of radiation above background levels. It is believed that, in the early 1960s, slag from the Union Carbide facility located on 47th Street in Niagara Falls was used as fill on the properties prior to paving. The Union Carbide facility processed ore containing naturally-occurring high levels of uranium and thorium to be classified as a licensable radioactive source material. Union Carbide subsequently obtained a license from the Atomic Energy Commission, now the Nuclear Regulatory Commission (NRC), and the State of New York; however, the slag had been used as fill throughout the Niagara Falls region prior to licensing. Based on the original survey and subsequent investigations, it is believed that the radioactive union Carbide slag was deposited on the Niagara Falls Boulevard site.

2. Physical location

The Niagara Falls Boulevard Site is located in a mixed commercial and residential area of Niagara Falls, New York. The site consists of two parcels, namely 9524 and 9540 Niagara Falls Boulevard. This site encompasses approximately 2.53 acres. Currently, the 9524 Niagara Falls Boulevard property contains a bowling alley and an asphalt parking lot; the 9540 Niagara Falls Boulevard property contains a building supply building and an asphalt parking lot. The properties are bordered to the north by a wooded area; to the east by a church; to the south by Niagara Falls Boulevard, beyond which is a residential area; and to the west by a hotel and residential area.

3. Site characteristics

4. Release or threatened release into the environment of a hazardous substance, or pollutant, or contaminant

Radiological Substances Identified

Maximum Concentration

Radon (Rn 222)

pCi/L (Indoor Air)

Th-232

pCi/g (Soil)

Ra-226

pCi/g (Soil)

Each of the radiological substances listed above are listed in 40 CFR 302.4, List of Hazardous Substances, Appendix B – Radionuclides. The statutory source for designating Radionuclides as a hazardous substance is Section 112 of the Clean Air Act

5. National priority list status

In June 2013, the Pre-Remedial Program submitted the recommendation of **NO FURTHER REMEDIAL ACTION PLANNED (NFRAP)** for the Niagara Falls Boulevard site. Therefore, this Site is not on the National Priorities List.

6. Maps, pictures, and other attached documents

- A site location map has been included as Attachment A.
- The EPA Pre-Remedial Assessment Report as Attachment B.

B. Other Actions to Date

1. Previous actions

No mitigation activities have been conducted to date.

2. Current actions

- a) The EPA conducted a Pre-Remedial Assessment at the Site from September 2013-April 2014.
- b) The EPA conducted a Removal Action Assessment from July 2015-August 2015.

C. State and Local Authorities' Role

1. State and local actions to date

In 1978, the U.S. Department of Energy conducted an aerial radiological survey of the Niagara Falls region and found more than 15 properties having elevated levels of radiation above background levels. It is believed that, in the early 1960s, slag from the Union Carbide facility located on 47th Street in Niagara Falls was used as fill on the properties prior to paving. The Union Carbide facility processed ore containing naturally-occurring high levels of uranium and thorium to extract niobium. The slag contained sufficient quantities of uranium and thorium to be classified as a licensable radioactive source material. Union Carbide subsequently obtained a license from the Atomic Energy Commission, now the Nuclear Regulatory Commission, and the State of New York; however, the slag had been used as fill throughout the Niagara Falls region prior to licensing. Based on the original survey and subsequent investigations, it is believed that the radioactive Union Carbide slag was deposited on the NFB site.

In September/October 2006 and May 2007, NYSDEC conducted radiological surveys of the interior and exterior of both properties on several occasions using both an Exploranium-135 and Ludlum 2221 detectors. With the exception of an office area and storage space at 9540 Niagara Falls Boulevard that was constructed after the original building directly on top of the asphalt parking lot, interior radiation levels were relatively low. The highest reading in the newer area was 115 $\mu\text{R/hr}$; elsewhere throughout the building, radiation levels generally ranged between 10 and 20 $\mu\text{R/hr}$. Exterior readings taken at waist height generally ranged between 10 and 350 $\mu\text{R/hr}$, while the maximum reading of 600 $\mu\text{R/hr}$ was recorded on contact (i.e., at the ground surface). At a fenced area behind the building located at 9540 Niagara Falls Boulevard, waist-high readings ranged between 200 and 450 $\mu\text{R/hr}$, and on-contact readings ranged between 450 and 750 $\mu\text{R/hr}$. Elevated readings were also observed on the swath of grass between the 9524 Niagara Falls Boulevard property and the adjacent property to the west that contains a hotel, and in the marshy area beyond the parking lot behind the buildings. Two biased samples of slag

were collected from locations that exhibited elevated static Ludlum detector readings: one sample was collected from an area of loose blacktop that indicated readings of 515,905 cpm on the Ludlum detector, and one slag sample was collected in the marshy area that indicated readings of 728,235 cpm on the Ludlum detector.

During a reconnaissance performed by the NYSDOH and NYSDEC on July 9, 2013, screening activities showed radiation levels at 200 µR/hr with a hand-held PIC unit around an area of broken asphalt and 500 µR/hr from a soil pile containing slag at the NFB site. Readings over 600,000 cpm were recorded with a sodium iodide 2x2 scintillation detector from the soil and slag pile.

2. Potential for continued state/local response

Neither NYSDEC, NYSDOH nor the local government has the resources available to conduct a removal action at the Site. NYS referred the site to EPA on June 21, 2013. These organizations will act in a supporting role throughout the removal action.

III. THREATS TO PUBLIC HEALTH, OR WELFARE, OR THE ENVIRONMENT AND STATUTORY AND REGULATORY AUTHORITIES

Current Site conditions pose ongoing releases and the threat of future releases of hazardous substances, namely: uranium and its progenies (i.e. ra-226 and radon), thorium and its progeny (i.e. ra-228 and thoron), and ionizing gamma exposure. The likelihood of direct human dose, via ingestion and/or inhalation of hazardous substances, and the threat of futures releases and migration of those substances, pose an imminent and substantial endangerment to the public health and welfare or the environment based on the factors set forth in the NCP, 40 CFR §300.415(b)(2). These relevant factors include:

Conditions at the Site met the requirements of 40 CFR 300.415(b)(2) of the NCP for undertaking a CERCLA removal action in that there exists:

- 1) Actual or potential exposure to nearby human populations or the food chain from hazardous substances, or pollutants, or contaminants [300.415(b)(2)(i)];
- 2) High levels of hazardous substances or pollutants or contaminants in soils, largely at or near the surface, that may migrate [300.415(b)(2)(iv)];
- 3) Weather conditions that may cause hazardous substances, or pollutants, or contaminants to migrate or be released. [300.415(b)(2)(v)];
- 4) Threat of fire and/or explosion [300.415(b)(2)(vi)]; and
- 5) The unavailability of other appropriate federal or state response mechanisms to respond to the release [300.415(b)(2)(vii)].

A. Threats to Public Health or Welfare

- (i) *Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, or pollutants, or contaminants:*

The Site contains active businesses that operate within structures formerly used by Wolff-Alport, a processor of materials that contained radioactive properties. The presence of radioactivity has been documented within and underneath the structures, in the soil at the rear of the structures along a former rail spur, underneath the adjoining public sidewalk and street, and in nearby sewers. Persons that work in or access the buildings at the Site or traverse the public sidewalk and/or street in front of the Site or trespass the rear portion of the Site will be exposed to ionizing radiation by passing over or coming into contact with these impacted areas. The area around the Site is, in part, residential in nature. Persons use the adjoining streets as a thoroughfare and to wait for public transportation. A deli/grocery store on the corner of Irving and Cooper Avenues may tend to increase the number of persons that access the sidewalk in front of the Site. The railroad spur behind the building appears to be an area that is accessed by people. Any excavation conducted at the Site, including on Irving Avenue, could result in increased direct gamma radiation exposures to persons working or walking in and around the disturbed area. Persons working in the sewers near the Site, including potentially cleaning out the storm sewers could potentially be exposed.

(iv) *High levels of hazardous substances or pollutants or contaminants in soils, largely at or near the surface that may migrate:*

Surveys conducted at the Site indicate that elevated levels of radioactivity are present within one foot of the surface at the rear of the Site on the former rail spur. The area consists of bare soil overgrown with weeds. Although the parcel on which the former rail strip is reportedly considered abandoned and current ownership is questionable, the parcel is used to store heavy machinery, crane equipment and, on occasion, vehicles. As a result, the radioactive contamination can be spread offsite under this scenario and potentially be available for inhalation as a particulate since the streets near the Site sustain a significant amount of vehicular movement. Any excavation conducted at the Site, including on Irving Avenue, could result in an increased chance of contaminant migration, both directly on the roadway and through an airborne pathway, which could impact persons near the Site.

(vi) *Threat of fire or explosion:*

A former rail spur at the rear of the buildings is overgrown with vegetation and has a fence on both ends that meet up with Cooper Avenue and Irving Street. The access gates on both ends have been damaged due to vandalism and the rear of the buildings is covered with graffiti. Vandals or trespassers at the Site could spark a fire that would have a catastrophic result.

A fire at the buildings located on the Site could result in the generation of smoke containing radioactive materials that could migrate off-site into neighboring residential and commercial areas causing widespread exposure to gamma and beta emitting radiation.

(vii) *The availability of other appropriate Federal or State response mechanisms to respond to the release:*

The State of New York is not currently able to take timely and appropriate action to respond to the threat posed by the presence of hazardous substances at the Site.

B. Threats to the Environment

At this time there is no documentation to indicate that the Site is currently having an acute impact to any sensitive environments or natural resources. Analytical testing has confirmed the presence of elevated

levels of radionuclides in soil at the Site. The contaminated soils will continue to spread through migration via surface water runoff, and contaminate other soils and groundwater surrounding the Site which could negatively impact the local flora and fauna.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

V. EXEMPTION FROM STATUTORY LIMITS

A. Emergency Exemption

1. There is an immediate risk to public health or welfare or the environment.

Continued response actions beyond 12 months will be required to complete the necessary removal actions to mitigate the threats posed by this Site. Conditions at the Site and the proposed actions meet the criteria for an emergency exemption as specified in CERCLA Section 104(c). There are immediate risks to public health and the environment, and continued response actions are immediately required to prevent, limit or mitigate the release or threat of release of hazardous substances at the Site. Neither the state, nor local government can provide assistance on a timely basis. Thorium and Radium contamination are causing workers to be exposed to unacceptable daily doses of gamma radioactivity.

2. Continued response actions are immediately required to prevent, limit, or mitigate an emergency.

The Radioactive substances are Thorium and Radium as well as the byproducts Thoron Gas and Radon Gas. The maximum concentrations of these materials are listed in Section II.A. 4 of this document. These radionuclides pose an immediate risk to public health, welfare and the environment. Should the ongoing and planned removal activities not be completed, the public would continue to be exposed to unacceptable radiation levels from this Site. These threats must be addressed by the ongoing removal action until they are effectively mitigated.

3. Assistance will not otherwise be provided on a timely basis.

Other federal, state, or local response mechanisms and resources are not available to respond to the release and/or threat of release of hazardous substances, contaminants, or pollutants from this Site in a timely manner. Both the State and local government lack the necessary resources to perform a response at this Site.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

The objective of the removal action is to eliminate the threat of exposure to hazardous substances, pollutants or contaminants present inside the buildings at the Site. The EPA will mobilize the Emergency and Rapid Response Services contractor to the Site and will complete the following:

1. Proposed action description

Standards have been developed for the cleanup of uranium mill tailings under Section 275 of the Atomic Energy Act, 42 U.S.C § 2022, as amended by Section 206 of the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), 42 U.S.C. § 7918 and regulations promulgated therefore at 40 CFR § 192.12. The purpose of these standards was to, among other things, limit gamma radiation exposure to people utilizing contaminated land and encourage the cleanup of such sites to allow for unrestricted site use. As detailed in Establishment of Cleanup Levels for CERCLA Sites with Radioactive Contamination, OSWER No. 9200.4-18 (August 22, 1997), and Use of Solid Cleanup Criteria in 40 CFR Part 192 as Remediation Goals for CERCLA Sites, EPA Directive No 9200.4-25 (February 12, 1998), these standards are considered relevant and appropriate at CERCLA sites with soil contaminated with radium (i.e. ra-226 and ra-228). Subpart B of 40 CFR §192.12 lists two cleanup standards for surface and subsurface soils. This section provides that the cleanup standard for combined radium of ra-226 and ra-228 cannot exceed its background level, plus 5 pCi/g, averaged over the first 15 centimeters (cm) of soil below the surface. Because the soil contamination at the Site is relatively shallow, mimicking the mill waste for which UMTRCA was developed, the 5 pCi/g plus background concentration level will be the cleanup standard used at the Site.

Soil contaminated with ra-226 and ra-228 above ____ pCi/g cleanup standard will be transported to U.S. Ecology's disposal facility in _____. After removing the soils from the affected area, the excavated soil will be replaced with clean soils. Clean soils are soils that have been analyzed for radium, with results indicating that the concentration is at or below the background and that all other hazardous substances, pollutants, or contaminants are below residential soil screening levels as determined by EPA, _____. (find site. There is a R9 site with screening levels) _____. Areas currently asphalted, concreted, sodded, or graveled over, will be replaced with asphalt, concrete, sod, or gravel, accordingly.

- a. Preparation of the building interiors of the following locations for shielding:
 - Primo Auto Body #1, Block 3725/Lots 44;
 - Primo Auto Body #2, Block 3725/Lots 42;
 - Terra Nova, Block 3725/Lots 42.
- b. Preparation of building interiors includes:
 - Tenant disposing of any debris;
 - Relocation of tenant stored materials into a storage container located behind the building at Lot 31;
 - If office space is being shielded and work cannot be performed in office area, a temporary mobile office will be set up at Lot 31;
 - Once interior space is clear, concrete framing installed.
- c. Concrete or Concrete/Lead combination shielding installed into the building interiors.
- d. Once interior building shielding installation is complete, the concrete/lead shielding along the Irving Avenue sidewalk will be installed.

No disposal of hazardous substances is planned and therefore the off-site rule is not applicable. No Post Removal Site Controls are necessary.

2. Contribution to remedial performance

The actions proposed in this Action Memorandum should not impede any future remedial plans or other response actions for this Site, although it is expected that no further response actions will be required at the Site.

This action will contribute effectively to any long term remedial action with respect to the release or threatened release of hazardous substances and is consistent with any future long-term remedial action that may be undertaken at the Site.

3. Description of Alternative Technologies

Alternative technologies will be considered, so long as they prove to be cost effective, efficient and consistent with the NCP. This section has been removed from the current guidance.

4. Engineering evaluation/cost analysis

Due to the time-critical nature of this removal action, an EE/CA will not be prepared.

5. Applicable or relevant and appropriate requirements

Section 300.415(j) of the NCP provides that removal actions must attain ARARs to the extent practicable, considering the exigencies of the situation.

Section 300.5 of the NCP defines applicable requirements as cleanup standards, standards of control, and other substantive environmental protection requirements, criteria or limitations promulgated under Federal environmental or state environmental or facility citing laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location or other circumstances at the CERCLA site.

Section 300.5 of the NCP defines relevant and appropriate requirements as cleanup standards, standards of control and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility citing laws that, while not “applicable” to a hazardous substance, pollutant, or contaminant, remedial action location, or other circumstances a a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site and are well-suited to the particular site.

Because CERCLA on-site response actions do not require permitting, only substantive requirements are considered as possible ARARs. Administrative requirements such as approval of, or consultation with administrative bodies, issuance of permits, documentation, reporting, record keeping and enforcement are not ARARs for the CERCLA action confined to the site.

OR

Section 300.415(j) of the NCP provides that fund-financed removal actions under Section 104 of CERCLA shall, the extent practicable considering the exigencies of the situation, attain ARARs under

federal environmental or state environmental facility siting laws. The following specific ARARs have been identified for this action:

Federal ARARs

- Occupational Safety and Health Act Standards at 29 CFR 1910 is applicable.
- Department of Transportation (DOT) Regulations at 49 CFR part 107 and 171-177, and DOT hazardous materials transportation regulations may be relevant and appropriate for the transportation of contaminated soils.
- Section 275 of the Atomic Energy Act, 42 U.S.C. § 2022, as amended by Section 206 of the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), 42 U.S.C. § 7918; 40 CFR part 192 as discussed above, is relevant and appropriate.

State ARARs????

Not applicable.

6. Project schedule

The response activities described in the proposed action description above will be initiated upon the approval of this Action Memorandum. The EPA estimates the response activities will require 12-24 months to complete. This schedule is dependent on numerous factors including the cooperation of the tenants, favorable weather conditions and field conditions consistent with those encountered during the site assessment. Changes in any or all of these factors will have an impact on the project schedule.

B. Estimated Costs

A summary of estimated costs for the action is presented below.

	Funding Verbally Authorized on 9/25/12	Ceiling Increase Requested	Proposed New Project Ceiling
Direct Extramural Costs			
Regional Advice of Allowance Costs (Total cleanup contractor including labor, equipment and materials) Incl 20% Contingency	\$ 250,000	\$ 1,200,000	\$ 1,450,000
Other Extramural Cost not Funded from the Regional Allowance (RST2)	\$ 60,000	\$ 10,000	\$ 70,000
Subtotal, Extramural Costs	\$ 310,000	\$ 1,210,000	\$ 1,520,000
Extramural Costs Contingency	\$ 40,000	\$ 330,000	\$ 370,000
Total Removal Action Project Ceiling	\$ 350,000	\$ 1,540,000	\$ 1,890,000

VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action or no action could result in the release of the hazardous substance into the environment, thereby exposing the nearby residents and surrounding commercial businesses to hazardous substances on the Site.

Given the Site conditions, the nature of the hazardous substances documented onsite, and the potential exposure pathways to nearby populations described in Section ____, actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response action section in this Action Memorandum, may present an imminent and substantial endangerment to public health or welfare or the environment.

VIII. OUTSTANDING POLICY ISSUES

There are no known outstanding policy issues associated with this Site at the present time. While there is a Headquarters consultation process in place for sites where radioactive contamination is present (Headquarters Consultation for Radioactively Contaminated Sites, OSWER No. 9200.1-33P, July 26, 2000), this consultation requirement applies only to sites where radioactive material will be managed on-site (e.g. capping, disposal cells) or where there is a potential national precedent-setting issue related to the radioactive materials. In this instance the radioactive materials will not be managed in place and there is no potential national precedent-setting issue related to the radioactive materials. Therefore, Headquarters consultation is not required.

IX. ENFORCEMENT

The EPA has identified XXXX as a viable PRP. The OSC will work with the Removal Action Branch enforcement staff and the Office of Regional Counsel in an attempt to locate all viable PRPs to recover costs associated with this removal action.

The total EPA costs for this removal action based on the full-cost accounting practices that will be eligible for cost recovery are estimated to be \$2,847,912.

COST CATEGORY	AMOUNT
Direct Extramural Cost	\$1,890,000
Direct Intramural Cost	\$ 250,000
Subtotal Direct Costs	\$2,140,000
Indirect costs (Indirect Regional Cost Rate 33.08%)	\$ 707,912
Estimated EPA Costs eligible for Cost Recovery	\$2,847,912

Note: Direct Costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

X. RECOMMENDATION

This decision document represents the selected removal action for the Niagara Falls Boulevard Site located in Niagara Falls, Niagara County, New York. This document has been developed in accordance with CERCLA and is not inconsistent with the NCP. This decision is based on the administrative record for the Site.

Conditions at the Site meet the NCP Section 300.415(b)(2) criteria for a removal action and I

recommend your approval of this removal action. The total project ceiling, if approved, will be \$XXXXXX. Of this, as much as \$XXXXXX will come from the Regional removal allowance.

Please indicate your formal approval of the verbal authorization, request for a ceiling increase and a 12-month exemption for the removal action at the Wolff-Alport Site, as per current Delegation of Authority, by signing below.

APPROVAL: _____ **DATE:** _____
Walter E. Mugdan, Director
Emergency and Remedial Response Division

DISAPPROVAL: _____ **DATE:** _____
Walter E. Mugdan, Director
Emergency and Remedial Response Division

cc: W. Mugdan, ERRD-D
A. Carpenter, ERRD-DD
E. Mosher, ERRD-RPB
J. Daloia, ERRD-RPB
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L. Rosman, NOAA
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S. Bates, NYSDOH
R. Craig, RST

Attachment A

**DO NOT PLACE IN ADMINISTRATIVE RECORD
DO NOT RELEASE TO THE PUBLIC**

Confidential Enforcement Addendum

ENFORCEMENT ADDENDUM